Neckarsulm (Germany), 30 December 2023  
M12: UL-approved K and L cable connectors  
**Coded for power supply**

**K- and L-coded M12 connectors are suitable for transmitting electrical power to AC and DC applications in factory automation. binder offers a selection of overmolded cable components that were developed for use in North America according to the UL 2238 standard.**binder, a leading supplier of industrial circular connectors, is expanding its M12 portfolio by adding K- and L-coded overmolded cable connectors of the 823 and 824 series, which were developed according to UL 2238. These are primarily intended for use in the power supply of field devices in automation technology. Here, the transmission of electrical power via compact M12 interfaces has become a fundamental requirement. The connectors provide a compact alternative to power connections using 7/8-inch technology.

The K-coding indicates 5-pin connectors for AC supply of e.g., drives or frequency converters. Target applications of the likewise 5-pin connectors with L-coding include DC miniature drives, decentralized I/O modules, and other automation components that are supplied with DC voltage in field bus systems.

The K-coded products of the binder 824 series with screw locking are characterized by their ampacity of up to 12 A per pin under continuous load at rated voltages of 630 V(AC) respectively. The L-coded products in the 823 series have a rated current of 16 A and a rated voltage of 63 V (DC). Gold-plated contacts guarantee reliable current transmission. The fully overmolded connectors ensure protection of the interface according to IP68.

**Ready for the markets of North America**

The rapid and seamless introduction of new products to the markets of different world regions is an increasingly important competitive demand. Export to North America, for example, requires conformity to US safety regulations. This in turn can be proven by certification from a qualified and recognized test laboratory. With the UL approval from Underwriters Laboratories, manufacturers of electromechanical connectivity products can prove that their components meet the safety requirements for North America. Interfaces designed for rated currents up to 16 A and rated voltages up to 630 V require approval according to UL 2238. UL 2238 certification is currently in preparation.

**M12 – robust, flexible, reliable**

The K- and L-coded overmolded M12 cable connectors were developed in conformance with IEC 61076-2-11 for use in industrial-automation environments. Thus, product designers and installers are provided with a robust and variably applicable interface technology that ensures reliable power transmission to AC and DC field components even at high ambient temperatures. The IP68-compliant interfaces feature a protected seal within the M12 socket, and the M12x1 thread is equipped with an anti-vibration lock. Furthermore, connection cross-sections up to 2.5 mm2 are available.  
  
**About binder**binder, headquartered in Neckarsulm, Germany, is a family-owned company characterized by traditional values and one of the leading specialists for circular connectors. Since 1960, binder has been synonymous with the highest quality. The company works with more than 60 sales partners on six continents and employs around 2,000 people worldwide.

The binder group includes the binder headquarters, 16 affiliated companies, two system service providers as well as an innovation and technology center. In addition to Germany, the binder sites are located in Austria, China, France, Hungary, the Netherlands, Singapore, Sweden, Switzerland, the UK, and the USA.  
Figure caption:  
K- and L-coded M12 cable connectors of the 823 and 824 series are approved according to UL 2238. Photo: binder  
  
Fields of application:

* AC and DC power supply, respectively, in automation technology

Features:

* Locking system: screw
* Termination: crimp, overmolded
* Pin count: 4+PE (K-coded), 4+FE (L-coded)
* Rated voltage: 630 V(AC), 63 V(DC)
* Rated current: up to 16 A (L-coding) / 12 A (K-coding)
* Operating temperature range: -40 °C to +90 °C
* Protection degree: IP67 (mated)
* Mating cycles: >100

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